England is through Hudson's Bay. Even the city of Winnipeg, near the southeastern extremity, is at least 800 miles nearer to Liverpool by the Hudson's Bay route than by the St. Lawrence.

As regards the difficulties caused by ice, Dr. Bell believes that the strait and bay may be navigated and the land approached by steamer during an average of four and a-half months each year, or from the middle of June to the end of October. The bay itself and probably the straits are open all the year round—it is only the harbors that are closed.

MICROSCOPY.[1]

AMERICAN SOCIETY OF MICROSCOPISTS.—The executive committee of this society has decided to accept the invitation of the Elmira Microscopical Society, and to convene the next annual meeting of the society at that city, Elmira, N. Y., on Tuesday, Aug. 17, 1882, at 10 A. M. It is expected that the meetings will occupy four days, the final adjournment occurring Friday evening or Saturday morning, leaving ample time for those who wish to attend the Montreal meeting of the A. A. A. S. to reach Montreal by Tuesday, Aug. 24th. Many important papers have already been promised, and there is every reason to believe that the attendance will be large and the proceedings important. The local society at Elmira has taken up the work of preparing for the reception and entertainment of the society, with great enthusiasm, and will doubtless carry it out with marked success.

The committee appointed to consider and report upon the possibility of securing greater uniformity in the sizes of oculars produced by different makers, and some definite and uniform nomenclature in regard to their amplifying powers, has issued a circular to all manufacturers in this country asking information and co-operation. In the interest of the future convenience and satisfaction of all parties concerned, it is hoped that makers and dealers will cordially unite with the society in attempting by all reasonable means to secure so desirable an object. Those makers who may have failed to receive the circular can obtain copies from any member of the committee which consists of the following Ex-Presidents and present President of the Society: R. H. Ward, Troy, N. Y., H. L. Smith, Geneva, N. Y., J. D. Hyatt, Morrisana, N. Y., Geo. E. Blackham, Dunkirk, N. Y.

The Griffith prize, consisting of a Bausch and Lomb ½ inch objective of 98° air angle (0.76 numerical aperture) is to be awarded at this meeting to the author of the best paper presented on the adulteration of some important article of food or medicine. Papers are to be accompanied by permanently mounted slides illustrating the points under discussion. Names of competitors are to remain unknown until after the announcement of the

[1] This department is edited by Dr. R. H. WARD, Troy, N. Y.

award. Persons intending to become members of the Society at the coming meeting can compete on the same terms as present members. Circulars giving particulars as to the required method of competition can be obtained from the Secretary, Professor D. S. Kellicott, Buffalo, N. Y.

VERIFICATION OF OBJECTIVES.—The editor of the *Northern Microscopist* (Manchester, England), announces the opening of a verification department, in which it is proposed to publish, for a fee of eighteen pence to cover expenses, information in regard to any objective sent for examination. The following measurements will be given :—focal length and angular aperture as estimated by maker; linear amplifying power, working focal distance, and absolute size of field, at ten inches from front lens of objective to plane surface of eye-lens of ocular (which is a Ross A, with diaphragm aperture of 0.75 inch, and approximate magnifying power of 5 diameters); numerical aperture by Professor Abbe's apertometer, and calculated equivalent air angle. Though not likely to work without some friction, this department will, if permanently successful, be a great convenience to those owners or intended purchasers of lenses, who have not the experience or apparatus requisite to test them for themselves. It would be still more satisfactory, and would probably conduce to the increased success of such as might adopt the plan, if makers and dealers would have their lenses similarly examined and certified to by competent and impartial authority, before offering them for sale.

MOUNTING ON SQUARE SLIPS.—Mr. J. Fenner proposes, in the *English Mechanic*, to mount microscope objects on glass one inch square instead of the standard 3x1 slips. These are to be placed in shallow circular paper boxes, just large enough to contain them, which may be obtained cheaply in large quantities at the wholesale drug stores. The slide is to be covered with a cardboard diaphragm snugly fitted into the box, perforated by a central opening through which to view the object, and covered with a gummed label. The bottom of the box has a central opening (previously punched through it) for the transmission of light; and the cover is labeled and numbered to correspond with the box and with the owner's register-book. As none of the slide is visible except the central portion immediately around the object, great skill or care is not required in giving an elegant finish to the cell or to the outline of the mounting medium. Such mounts, which can be easily and satisfactorily prepared by inexpert persons, have no top or bottom edge, but can be placed on the stage in any position, and rotated by the hand. They are evidently not suitable for delicate work or for use with high powers.

MICROSCOPIC TEST FOR POISON.—To test fluids for such minute quantities of certain alkaloids as would not answer to chemical

procedure, Professor Rossbach places, uncovered, on a slide, a drop of water containing Infusoria, to which, being carefully examined, a little of the suspected fluid is applied. If organic poison be present the Infusoria become a formless sediment. 1–15,000,000 of a grain of atropine may be thus detected.—*Science Gossip.*

SLIDES OF MARINE ALGÆ.—Rev. A. B. Hervey of Taunton, Mass., will mail to any address, for two dollars, a set of six slides showing the characteristic fruit of the six great groups into which Professor Agardh divides the Red Algæ.

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SCIENTIFIC NEWS.

— A number of final reports of the Norwegian North Atlantic Expedition have recently appeared. It has been found, says the New York *Nation*, that free carbonic acid does not exist in ordinary sea-water, which indeed has an alkaline reaction, but that it is present in the form of carbonates, and in a less degree of bicarbonates. In regard to saltness, a remarkable fact was determined, which has a most important bearing on various theories of oceanic circulation—namely, that the excess of salt noticeable and expected in the warm Atlantic current water was not confined to it, but almost equally characterized the deep strata, which were reduced to the freezing point. This water is, therefore, not a Polar indraught, as has been supposed, Arctic or Antarctic, but is tropical surface water, which has been cooled; while the Polar water continues equally distinguished from it by its deficient saltness, and appears to allow the cooled salt water of the surface to sink through it without mixing, and to form on the bottom certain portions of what has been called the "cold area."

Six or seven new species of fishes, a ray, a sucking pout *(Liparis)*, several species of Lycodes, were discovered, together with a translucent "ghost," with ventral fins reduced to long biped filaments attached to the throat, and with no scales, which was called *Rhodichthys regina*. It was brought up from a depth of a mile and a half in the open sea between Jan Mayen and Finmark.

— The Fourth Annual Book of the Michigan Sportsmen's Association is an interesting document. This is one of the most useful of such societies, and is doing a good work in cultivating the proper tone in regard to the preservation of game, a matter in which every naturalist is interested. How important the subject is, may be seen upon reading the article by Prof. Roney on the destruction of deer in 1880, and the necessity of prohibitory export laws. It appears that in 1877, in two months, 15,000 deer were killed in Michigan, of which, at least, 8,500 were exported from the State. In 1878, a grand total of 1,600,000 pounds of venison, or about 21,000 deer were slaughtered, of which 13,500